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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/722,495      | 11/28/2003  | Yu-Kai Lin           | BHT-3167-169        | 7679             |

7590 10/16/2006  
BRUCE H. TROXELL  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

EXAMINER

WALFORD, NATALIE K

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2879

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/722,495

Applicant(s)

LIN, YU-KAI

Examiner

Natalie K. Walford

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on July 6, 2006, has been entered and acknowledged by the Examiner. Cancellation of claims 7-9 and 11 has been entered. Claims 1-6, 10, and 12-14 are pending in the instant application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-6, 10, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US 6,774,543).

Regarding claim 1, Kim discloses a plasma display device in figure 1, comprising: a plasma display panel (item 20); and a heat-dissipating plate (item 24), mounted on the plasma display panel and thermally connected to the plasma display panel through a laminar attachment structure (item 26 and column 4, lines 21-29); wherein the laminar attachment structure comprises an annular channel (area surrounding item 26) which divides the laminar attachment structure into an outer closed portion and an inner portion and communicates with the external environment through at least one vacuum-pumping aperture (items 24a, 24b, 24c, 24d, and 24e) formed at the heat-dissipating plate.

Regarding claim 3, Kim discloses the plasma display device of claim 1, wherein the laminar attachment structure is an adhesive double tape (column 4, lines 21-29).

Regarding claim 4, Kim discloses the plasma display device of claim 1, wherein the inner portion of the laminar attachment structure comprises at least one trench (FIG. 1, area between items 24a, 24b, 24c, 24d, 24e), which divides the inner portion into at least two separated regions.

Regarding claim 5, Kim discloses the plasma display device of claim 1, wherein the at least one vacuum-pumping aperture is disposed above the annular channel (FIG. 1, items 24a, 24b, 24c, 24d, and 24e are above bottom channel (i.e. area surrounding item 26)).

Regarding claim 6, Kim discloses the plasma display device of claim 4, wherein the at least one trench of the inner portion of the laminar attachment structure communicates with the external environment through at least one vacuum-pumping aperture formed at the heat-dissipating plate (FIG. 1).

Regarding claim 10, Kim discloses a plasma display device in figure 1, comprising: a plasma display panel (item 20); and a heat-dissipating plate (item 24), mounted on the plasma display panel and thermally connected to the plasma display panel through a laminar attachment structure (item 26 and column 4, lines 21-29) having a plurality of strips (area surrounding item 26) spaced apart from each other by a plurality of spaces; wherein a respective guide trench (area between items 24a, 24b, 24c, 24d, 24e) is disposed between each pair of the neighboring strips to guide out the air within the spaces of the plurality of strips, two ends of at least one of the guide trench are sealed to form a closed region which communicates with the external environment

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through at least one vacuum-pumping aperture (items 24a, 24b, 24c, 24d, and 24e) formed at the heat-dissipating plate.

Regarding claim 14, Kim discloses the plasma display device of claim 10, wherein the laminar attachment structure is an adhesive double tape (column 4, lines 21-29).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 6,774,543) in view of Reisenauer et al. (US 6,161,910).

Regarding claim 2, Kim discloses the plasma display device of claim 1, but does not expressly disclose that the laminar attachment structure is a thermal pad, as claimed by Applicant. Kim does disclose though that the attachment structure may be an adhesive double tape (column 4, lines 21-29). Reisenauer is cited to show a heat sink (FIG. 4, item 28) that is connected to a display with a thermal pad (FIG. 4, item 84). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the laminar attachment structure be a thermal pad since it is known in the art that a thermal pad is another way of connecting a heating plate with a display as shown by Reisenauer.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Kim's invention to include the laminar attachment structure as a thermal pad as suggested by Reisenauer for connecting the display panel and heat dissipating plate.

Regarding claim 13, Kim discloses the plasma display device of claim 10, but does not expressly disclose that the laminar attachment structure is a thermal pad, as claimed by Applicant. Kim does disclose though that the attachment structure may be an adhesive double tape (column 4, lines 21-29). Reisenauer is cited to show a heat sink (FIG. 4, item 28) that is connected to a display with a thermal pad (FIG. 4, item 84). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the laminar attachment structure be a thermal pad since it is known in the art that a thermal pad is another way of connecting a heating plate with a display as shown by Reisenauer.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Kim's invention to include the laminar attachment structure as a thermal pad as suggested by Reisenauer for connecting the display panel and heat dissipating plate.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 6,774,543).

Regarding claim 12, Kim discloses the plasma display device of claim 10, but does not expressly disclose that the space is 3mm to 20mm, as claimed by Applicant. Kim does disclose though that there is a distance between the spaces (FIG. 1, items  $d_a$ ,  $d_b$ ,  $d_c$ ,  $d_d$ ,  $d_e$ ). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have

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the space between the strips about 3-20 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 and 10-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kamitani (US 6,346,334) is cited to show a plasma display panel assembly.

Kim et al. (US 6,856,076) is cited to show a plasma display device having efficient heat conductivity.

Tani et al. (US 5,971,566) is cited to show a plasma display device and its manufacturing method.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

*Nimesh Patel*  
9/23/06

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9/25/06  
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